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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,232	04/26/2001	Ramin Moshiri-Tafreshi	4740-001	8386

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EXAMINER	
MATTIS, JASON E	

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/843,232	MOSHIRI-TAFRESHI ET AL.	
	Examiner	Art Unit	
	Jason E Mattis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-13 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-13 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 26 April 2001 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This action is in response to Applicants' amendment received on 6/23/04. Claims 1-13 are currently pending in the application.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "1, 2, 3, 4, 5, and 6" have been used to designate signaling messages in Figure 4 and different signaling messages in Figures 3 and 5. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Although it was pointed out in the Applicants' remarks section of the amendment that the number 1, 2, 3, 4, 5, and 6 in Figures 3-5 are "simply used to represent a sequential accounting of the steps used to implement the illustrate process", using common numerals to number the respective steps of different processes is improper. The sequential steps represented in Figures 3-5 should be renumbered so that the same step number is not used to represent a step in two different Figures. For example, the steps of Figure 3 could be labeled 1_A, 2_A, and 3_A, with the steps of Figure 4 being labeled 1_B, 2_B, 3_B, 4_B, 5_B, and 6_B, and the steps of Figure 5 being labeled 1_C, 2_C, 3_C, 4_C, 5_C, and 6_C.

Claim Rejections - 35 USC § 103

3. Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rezaiifar et al. (U.S. Pat. 6467270) in view of Cheng et al. (U.S. Pat. 6393008).

With respect to claim 1, Rezaiifar et al. discloses a method of managing network resources in a radio network **(See column 3 lines 6-20 of Rezaiifar et al. for reference to a method of providing channels for communication in a mobile network)**. Rezaiifar et al. also discloses establishing a packet data connection with an access terminal, remote station 6 **(See column 5 lines 13-34 of Rezaiifar et al. for reference to remote stations 6 establishing a connection and transmitting data to zero or more base stations 4)**. Rezaiifar et al. further discloses allocating network resources to the packet data connection with the access terminal, remote station 6, with the network resources including a fundamental radio frequency channel and a supplemental radio frequency channel **(See column 3 line 6-20 of Rezaiifar et al. for reference to allocating network resources including a fundamental channels and supplemental channels used to transmit high speed data)**. Rezaiifar et al. also discloses monitoring the activity status of the packet data connection using a second timer **(See column 16 lines 4-26 of Rezaiifar et al. for reference to monitoring the period of inactivity, which is the time duration since the termination of the last data transmission, using at timer)**. Rezaiifar et al. also discloses releasing the fundamental frequency channel if the packet data connection is inactive for a period that

exceeds the duration value of the second timer **(See column 16 lines 4-45 of Rezaiifar et al. for reference to placing a remote station 6 in a suspended mode if the period of inactivity exceeds a first predetermined idle period, which corresponds to the claimed duration value of the second timer, and for reference to releasing the traffic channels, which includes the fundamental channel, in the suspended mode)**. Rezaiifar et al. does not disclose releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first timer while maintaining the connection with the fundamental frequency channel.

With respect to claim 5, Rezaiifar et al. discloses a base station radio network **(See column 5 lines 13-34 and Figure 1 of Rezaiifar et al. for reference to a mobile communications system with a base station 4)**. Rezaiifar et al. also discloses a base transceiver station, base station 4, for communicating with an access terminal over a fundamental frequency channel and a supplemental frequency channel **(See column 5 lines 35-45 and column 3 lines 6-20 of Rezaiifar et al. for reference to a base station 4 and for reference to communicating over a fundamental channel and a supplemental channel)**. Rezaiifar et al. further discloses a base station controller 10 to perform channel allocation and supervision **(See column 5 lines 35-54 of Rezaiifar et al. for reference to a base station controller 10 performing channel allocation and supervision)**. Rezaiifar et al. also discloses the base station controller 10 having a second timer **(See column 16 lines 4-26 of Rezaiifar et al. for reference to monitoring the period of inactivity, which is the time duration since the termination of the last data transmission, using at timer)**. Rezaiifar et al. further

discloses allocating the fundamental and supplemental radio frequency channels to the access terminal, remote station 6, to establish or maintain a packet data connection with the access terminal, remote station 6 **(See column 3 line 6-20 of Rezaiifar et al. for reference to allocating network resources to a remote station 6 including a fundamental channels and supplemental channels used to transmit high speed data)**. Rezaiifar et al. also discloses monitoring the activity status of the packet data connection using a second timer **(See column 16 lines 4-26 of Rezaiifar et al. for reference to monitoring the period of inactivity, which is the time duration since the termination of the last data transmission, using at timer)**. Rezaiifar et al. also discloses releasing the fundamental frequency channel if the packet data connection is inactive for a period that exceeds the duration value of the second timer **(See column 16 lines 4-45 of Rezaiifar et al. for reference to placing a remote station 6 in a suspended mode if the period of inactivity exceeds a first predetermined idle period, which corresponds to the claimed duration value of the second timer, and for reference to releasing the traffic channels, which includes the fundamental channel, in the suspended mode)**. Rezaiifar et al. does not disclose releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first timer while maintaining the connection with the fundamental frequency channel.

With respect to claim 9, Rezaiifar et al. discloses a method of connection supervision in a radio network **(See column 3 lines 6-20 of Rezaiifar et al. for reference to a method of providing and supervising channels for communication**

in a mobile network). Rezaiifar et al. also discloses allocating resources to a connection between the radio network and a wireless access terminal, remote station 6, in response to receiving a request from the wireless access terminal, remote station 6 **(See column 11 lines 28-33 of Rezaiifar et al. for reference to allocating resources in response to a request from a remote station 6 using an access channel)**. Rezaiifar et al. further discloses the resources including traffic resources and base station controller resources **(See column 5 lines 35-54 and Figure 2 of Rezaiifar et al. for reference to allocating RF channels and base station controller resources to the packet data connection by assigning sector elements 14 to control the communications between one or more base stations 4 and one remote station 6)**. Rezaiifar et al. further discloses releasing a remaining portion of the traffic channel resources and the BSC resources if the connection remains inactive for longer than a second time out period **(See column 16 lines 4-45 and column 17 lines 5-18 of Rezaiifar et al. for reference to placing a remote station 6 in a suspended mode if the period of inactivity exceeds a first predetermined idle period, which corresponds to the claimed second time out period, and for reference to releasing the traffic channels, which includes the fundamental channel, in the suspended mode and for further reference to releasing the BSC resources when the remote station 6 is placed in a dormant mode, which occurs after a second predetermined idle period, but is also after the first predetermined idle period)**. Rezaiifar et al. does not disclose releasing a portion of the traffic channel resources

allocated to the connection if the connection remains inactive from longer than a first time out period.

With respect to claim 10, Rezaiifar et al. does not disclose de-allocating at least one traffic channel allocated to the connection at a radio base station in the radio network after the first timeout period.

With respect to claim 11, Rezaiifar et al. does not disclose reducing the traffic channel bandwidth allocated to the connection after the first timeout period.

With respect to claims 1, 5, 9, 10, and 11, Cheng et al., in the field of communications, discloses using a first timer to monitor the activity status of the packet data connection and releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first time while maintaining the connection with the fundamental frequency channel **(See column 6 lines 32-65 and Figure 4 of Cheng et al. for reference to, when a reverse link packet data inactivity timer, which corresponds to the claimed first timer, has timed out, step 424, and the fundamental channel was not assigned at step 418, releasing the supplemental in step 430 without releasing the fundamental channel, meaning that a traffic channel has been released and the bandwidth allocated to the traffic channel has been decreased)**. Using a first timer to monitor the activity status of the packet data connection and releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first time while maintaining the connection with the fundamental frequency channel has the advantage of allowing a user service that requires only the fundamental

channel be allocated to continue to communicate using the fundamental channel even when a data packet communication service, that needs both the fundamental and supplement channels allocated, has been determined to be idle for a predetermined time, while at the same time releasing the resources of the supplemental channel so that these resources may used by another user **(See column 5 lines 27 to column 6 line 65 for reference to this process and its advantage)**.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Cheng et al., to combine using a first timer to monitor the activity status of the packet data connection and releasing the supplemental channel if the packet data connection is inactive for a first period that exceeds the duration value of the first time while maintaining the connection with the fundamental frequency channel, as suggested by Cheng et al., with the system method of releasing all traffic channel allocations, including a fundamental traffic channel, upon another inactivity timer being exceeded, as disclosed by Rezaiifar et al., with the motivation being to allow a user service that requires only the fundamental channel be allocated to continue to communicate using the fundamental channel even when a data packet communication service, that needs both the fundamental and supplement channels allocated, has been determined to be idle for a predetermined time, while at the same time releasing the resources of the supplemental channel so that these resources may used by another user.

With respect to claim 2, Rezaiifar et al. discloses allocating base station controller resources to the packet data connection **(See column 5 lines 35-54 and**

Figure 2 of Rezaiifar et al. for reference to allocating base station controller resources to the packet data connection by assigning sector elements 14 to control the communications between one or more base stations 4 and one remote station 6).

With respect to claim 3, Rezaiifar et al. discloses maintaining the base station controller resources after expiration of the first timer **(See column 16 line 28 to column 17 line 3 of Rezaiifar et al. for reference to maintaining controller resources by maintaining connection state information in the suspended mode, which the remote station 6 enters after the first time period has expired).**

With respect to claim 4, Rezaiifar et al. discloses initiating call tear-down procedures to release the base station controller resources when the second timer expires **(See column 17 lines 5-18 of Rezaiifar et al. for reference to tearing down the call by not maintaining any call state information, controller resources, in the dormant mode, which the remote station enters after the first second time periods has expired).**

With respect to claim 6, Rezaiifar et al. discloses allocating base station controller resources to the packet data connection **(See column 5 lines 35-54 and Figure 2 of Rezaiifar et al. for reference to allocating base station controller resources to the packet data connection by assigning sector elements 14 to control the communications between one or more base stations 4 and one remote station 6).**

With respect to claim 7, Rezaiifar et al. discloses maintaining the base station controller resources after expiration of the first timer **(See column 16 line 28 to column 17 line 3 of Rezaiifar et al. for reference to maintaining controller resources by maintaining connection state information in the suspended mode, which the remote station 6 enters after the first time period has expired)**.

With respect to claim 8, Rezaiifar et al. discloses releasing the base station controller resources when the second timer expires **(See column 17 lines 5-18 of Rezaiifar et al. for reference to releasing the call by not maintaining any call state information, controller resources, in the dormant mode, which the remote station enters after the first and second time periods has expired)**.

With respect to claim 12, Rezaiifar et al. discloses initiating call tear-down procedures to de-allocated the connection processing resources and the remaining portion of the traffic resources **(See column 17 lines 5-18 of Rezaiifar et al. for reference to tearing down the call by not maintaining any call state information, controller resources, in the dormant mode, which the remote station enters after the first predetermined time period and second predetermined time period had been exceeded)**.

With respect to claim 13, Rezaiifar et al. discloses setting the relative duration of the first and second time out periods to maximize the number of connections that can be supported by the radio network on average based on a relationship between RF resource capacity of the radio network and connection processing capacity of the radio network **(See column 15 line 64 to column 16 line 26 of Rezaiifar et al. for reference**

to using the time periods to more fully utilize forward and reverse link capacity and for reference to selecting specific 1 second and 60 second times for the first and second time periods in order to maximize the RF capacity utilization).

Response to Arguments

4. Applicant's arguments with respect to claims 1-13 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason E Mattis whose telephone number is (571) 272-3154. The examiner can normally be reached on M-F 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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